

ABSTRACT OF THE DISCLOSURE

A gas detector and process for detecting a fluorine-containing species in a gas containing same, e.g., an effluent of a semiconductor processing tool undergoing etch cleaning with HF, NF₃, etc. The gas detector preferably employs a nickel-containing filament that is sensitive to the fluorine-containing species, which can function both as a sensing component and as a heat source when elevated temperature sensing is required. Such nickel-containing filament can be constructed with various compositions and configurations to improve its signal strength and responsiveness, and is particularly suitable for fluoro sensing operations at constant resistance (CR) mode.